

6AS5

BEAM PENTODE

DESCRIPTION AND RATING

The 6AS5 is a miniature beam pentode designed primarily for use in the audio-frequency power output stage of automobile receivers. The tube is capable of delivering a relatively high power output at low plate and screen voltages.

GENERAL

ELECTRICAL

Cathode—Coated Unipotential

Heater Voltage, AC or DC	6.3	Volts
Heater Current	0.8	Amperes
Direct Interelectrode Capacitances, approximate*		
Grid-Number 1 to Plate	0.6	μμf
Input	12	μμf
Output	6.3	μμf

MECHANICAL

Mounting Position—Any
Envelope—T-5½, Glass
Base—E7-1, Miniature Button 7-Pin

MAXIMUM RATINGS

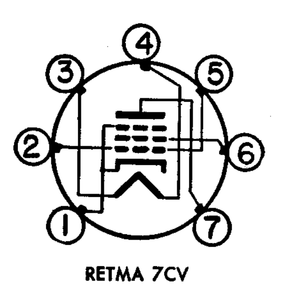
DESIGN-CENTER VALUES

Plate Voltage	150	Volts
Screen Voltage	117	Volts
Plate Dissipation	5.5	Watts
Screen Dissipation	1.0	Watts
Heater-Cathode Voltage		
Heater Positive with Respect to Cathode	90	Volts
Heater Negative with Respect to Cathode	90	Volts
Grid-Number 1 Circuit Resistance		
With Fixed Bias	0.1	Megohms
With Cathode Bias	0.5	Megohms



Supersedes ET-T600A, dated 9-51

BASING DIAGRAM

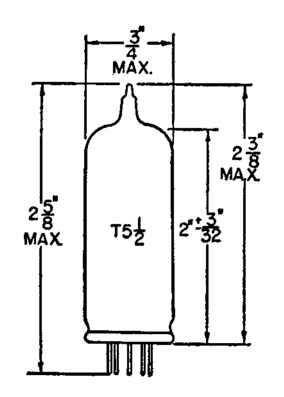


RETMA 7CV

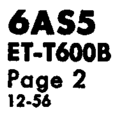
TERMINAL CONNECTIONS

Pin 1—Cathode and Beam Plates
Pin 2—Grid Number 1
Pin 3—Heater
Pin 4—Heater
Pin 5—Grid Number 1
Pin 6—Grid Number 2 (Screen)
Pin 7—Plate

PHYSICAL DIMENSIONS



RETMA 5-3



CHARACTERISTICS AND TYPICAL OPERATION

CLASS A_1 AMPLIFIER

Plate Voltage	150	Volts
Screen Voltage	110	Volts
Grid-Number 1 Voltage	−8.5	Volts
Peak AF Grid-Number 1 Voltage	8.5	Volts
Transconductance	5600	Micromhos
Zero-Signal Plate Current	35	Milliamperes
Maximum-Signal Plate Current	36	Milliamperes
Zero-Signal Screen Current	2.0	Milliamperes
Maximum-Signal Screen Current	6.5	Milliamperes
Load Resistance	4500	Ohms
Total Harmonic Distortion, approximate	10	Percent
Maximum-Signal Power Output	2.2	Watts

* Without external shield.

AVERAGE PLATE CHARACTERISTICS

E_f = RATED VALUE
E_{c2} = 110 VOLTS
I_b @ E_{c1} = 0 VOLTS
−2.0
−4.0
−6.0
− 8.5
−10
−12
−14
−16
−18
I_{c2} @ E_{c1} = 0 VOLTS
−4.0
−8.5
−12
−16
PLATE CURRENT (I_b) IN MILLIAMPERES
0 20 40 60 80 100 120 140
SCREEN CURRENT (I_{c2}) IN MILLIAMPERES
0 4 8 12 16 20 24 28
PLATE VOLTAGE IN VOLTS
0 100 200 300 400 500



AVERAGE PLATE CHARACTERISTICS

E_f = RATED VALUE
E_{c1} = 0 VOLTS

I_b @ E_{c2} = 120 VOLTS; 110; 100; 80; 60

I_{c2} @ E_{c2} = 120 VOLTS; 110; 100; 80; 60

PLATE CURRENT (I_b) IN MILLIAMPERES: 20, 40, 60, 80, 100, 120, 140

SCREEN CURRENT (I_{c2}) IN MILLIAMPERES: 0, 4, 8, 12, 16, 20, 24, 28

PLATE VOLTAGE IN VOLTS: 0, 100, 200, 300, 400, 500

OPERATION CHARACTERISTICS

E_f = RATED VALUE
E_b = 150 VOLTS
E_{c2} = 110 VOLTS
E_{c1} = -8.5 VOLTS
E_{sig} = 6.0 VOLTS (RMS)

POWER OUTPUT

I_b

DISTORTION

I_{c2}

TOTAL HARMONIC DISTORTION IN PERCENT: 0, 4, 8, 12, 16, 20, 24, 28

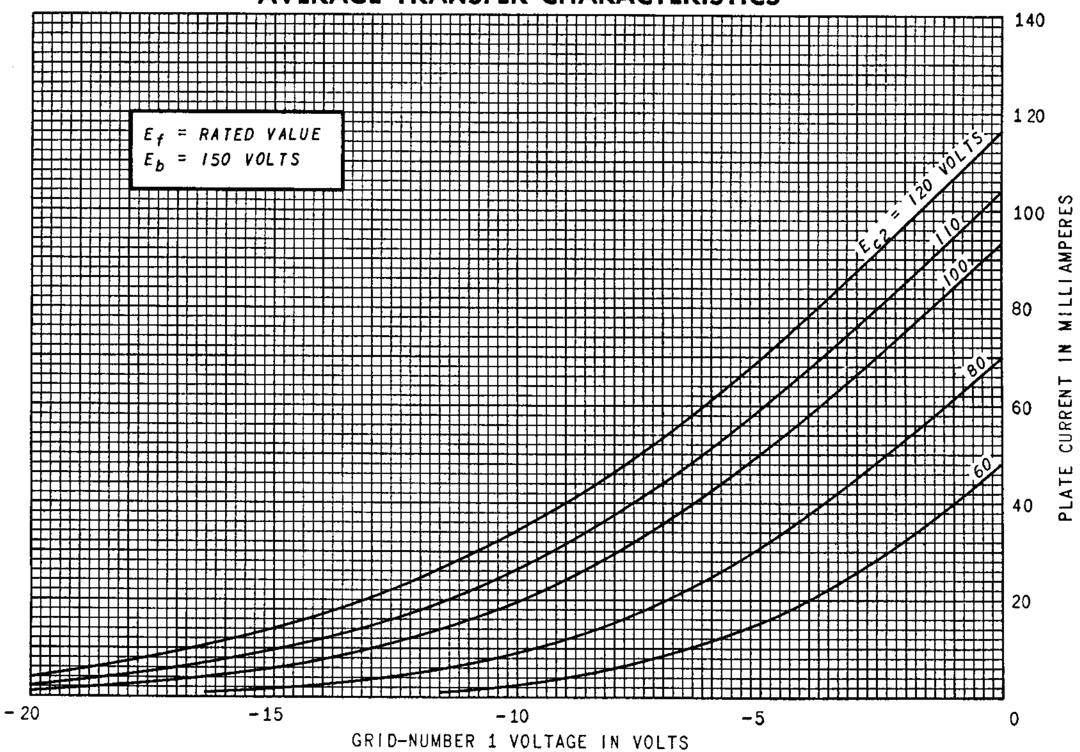
POWER OUTPUT IN WATTS: 0, 0.4, 0.8, 1.2, 1.6, 2.0, 2.4, 2.8

PLATE CURRENT (I_b) IN MILLIAMPERES: 0, 10, 20, 30, 40, 50, 60, 70

SCREEN CURRENT (I_{c2}) IN MILLIAMPERES: 0, 4, 8, 12, 16, 20, 24, 28

1000, 2000, 4000, 6000, 8000, 10000

AVERAGE TRANSFER CHARACTERISTICS



AVERAGE TRANSFER CHARACTERISTICS

